

May 15, 1951.

Dr. B. D. Davis,  
The Research Laboratory,  
411 East 69 Street,  
New York 21, N.Y.

Dear Bernie:

Unless I'm very much mistaken, I expect you'll be interested in a technique I've been developing, and perhaps may contribute some ideas for its improvement.

The problem is to transfer one or two hundred colonies from one plate to a series of others by some sort of printing or decalcomania. We find that a disc of good quality velvet works very well for this purpose. It's best to fasten the velvet to a flat support, gently press the agar plate onto the velvet, transferring some of the growth from each colonies, and retransfer the inoculum to a series of fresh plates in the same manner. With care there is surprisingly little smearing (owing to the texture of the velvet), and the technique has already been very useful in our hands. Its greatest value to us is in linkage studies, for probably a dozen plates or more can be printed from a single transfer, so we run down the various EMB media, but it is also quite useful in picking out auxotrophs, etc. I suspect there are a great many other applications yet to be thought of: one I hoped you might be interested in is a further demonstration of the spontaneity of drag(sm) resistance mutations: it should be possible to transfer a film of growth from a uniformly spread plate to two fresh plates, one with sm. At the points corresponding to clones of S<sup>r</sup> mutants on the sm plate, it should be possible to demonstrate a much higher frequency of cells showing this propensity, than at points selected at random from the non-sm plate. I'm glad it took this long to work out the method, for it probably would have interfered drastically with the development of the penicillin method.

I hope that we'll see you at Cold Spring Harbor- for my part the program suffers by an obvious omission, but I hope that won't prevent you from participating in the discussions, and visiting. Esther and I are taking about three weeks off on this junket, to take in one of the SAB sessions first (in Chicago)- I'm looking forward to talking to Eagle about his resistance story there. If you're not going to the CSH symposium, let us know and perhaps we can arrange a more private conference.

Sincerely,

Joshua Lederberg